Remarks

Claims 1, 2, 4, 5, 9, 10 and 13 are pending. Claims 25-32 are canceled in this Response as being drawn to a non-elected invention. Claims 3, 6-8, 11, 12, and 14 have been withdrawn as being drawn to non-elected species.

Information Disclosure Statement

An information disclosure statement (form 1449) with references from the International Search Report accompanies this Response along with a copy of the Search Report and a Concise Explanation Of The Relevance Of DE 2724254.

Amendments To Claims 2, 5 and 10

The amendments to Claims 2, 5 and 10 make it clear that mixing the two materials to form the mixture does not have to occur simultaneously with the act of filtering. The amendments reflect the fact that the metal granules and the filter media (iron granules and sand in Claim 10) may be mixed before initiating the filtering process and not necessarily during the filtering process.

Application Serial No. 11/171,002 Is Not Prior Art

With respect to the Office's remarks about Application Serial no. 11/171,002 on page 2 of the Office Action, Applicants note that the '002 application is not prior art under any of Sections 102(e), (f) or (g) (or any other part of Section 102). The earliest possible date for which the '002 application might be deemed a prior art reference is June 30, 2004, nearly 18 months after the effective filing date of this Application. The Office's remark about an interference (presumably with respect to Section 102(g)) is not understood since the two applications do not claim identical subject matter.

If the Office disagrees, the Office is respectfully requested to specifically explain how the '002 application might be considered prior art.

Provisional Obviousness-Type Double Patenting Rejection

All pending claims have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting based on Claims 8 and 10 of application serial no. 11/171,002. This Application was filed before the '002 application and, therefore, a patent granted on this Application will expire before a patent granted on the '002 application (except, perhaps, in the highly unlikely event that prosecution of this Application is so delayed that a patent term extension takes the expiration date past that of a patent granted on the '002 application). A non-

statutory obviousness-type double patenting rejection in this the earlier application, therefore, would not seem to serve the policy of preventing an unjustified extension of the right to exclude granted by a patent underlying the doctrine. Applicants request, therefore, that the Office withdraw the provisional rejection.

The Applicants acknowledge that MPEP § 804 suggests a provisional rejection in both the earlier filed and the later filed applications is appropriate. While this practice may have been proper when the term of a patent was measured from the date of issuance rather than the date of filing, there does not now appear to be any legal basis for making an obviousness-type double patenting rejection in the earlier case. In any event, even according to MPEP § 804 the provisional rejection will not "ripen" unless and until it becomes apparent the '002 application will issue before this Application.

For all of these reasons, Applicants elect not to otherwise address the provisional non-statutory double patenting rejection at this time.

Rejections Based On Nikolaidis

Claims 1, 2, 4, 5, 9, 10 and 13 were rejected under Section 102(b) as being anticipated by Nikolaidis (6132623). Alternatively, Claims 9 and 10 were rejected under Section 103 as being obvious over Nikolaidis in view of Winchester (6200482). The rejections are all based on the assertion that Nikolaidis teaches continuously regenerating the filter media. This assertion is not correct.

Claims 1 and 4 recite continuously regenerating a reactive filter media while simultaneously filtering contaminants from fluid flowing through the filter media. Claim 9 recites similar limitations. Claims 2 and 5, depending from Claims 1 and 4 respectively, recite that regenerating the reactive filter media comprises agitating a mixture of metal granules and the filter media. Claim 10, depending from Claim 9, recites similar limitations.

The Office argues that the "filter media of [Nikolaidis] process will inherently be continuously regenerated for the same reason that Applicant's mixture of sand and iron granules functions in this manner." Office Action page 4. The Office's argument is not sufficient to sustain the rejections for two reasons. First, it ignores other claim limitations and, second, the argument is factually not accurate.

1. Other Claim Limitations. Claims 1 and 4 require continuously regenerating a reactive filter media *while simultaneously filtering contaminants from fluid flowing*

through the sand. As detailed below, even if it is assumed Nikolaidis teaches the regenerating acts recited in Claims 2 and 5, he does not teach performing these acts while simultaneously filtering contaminants from fluid flowing through the sand. The Office's apparent assertion to the contrary is not correct.

In Nikolaidis, the contaminated water is either (1) passed through a column of iron filings and sand or (2) admixed or shaken up with the iron filings and sand. For column treatment see Nikolaidis column 5, lines 55-59; Figs. 3-5 and accompanying text at columns 5-6; and Examples 3-4 described at column 8. For admixing/shaking treatment, see Nikolaidis column 5, lines 52-55 (admixing) and examples 1-2 described at column 7 (shaking).

The column treatment described in Nikolaidis, of course, does not include agitating a mixture of metal filings and sand. To the extent the admixing/shaking treatment described in Nikolaidis might be deemed to include agitating the mixture of metal filings and sand (and water), there is no filtering of contaminants because the water is not flowing through the filter media. Indeed, there is no fluid flow at all in Nikolaidis' admixing/shaking treatment -- the treatment takes place in a closed container and contaminants are removed from the water only through the chemical process of adsorption. Chemical processes such as adsorption and the mechanism of filtering are not the same. The distinction between these two types of contaminant removal is explicitly recognized in the Specification. See, for example, Specification paragraph 0015 ("The process creates and utilizes a reactive filter media that removes contaminants by filtering and by adsorption. A reactive filter media is any filter media with the additional capability of removing contaminants from waste water through chemical processes such as adsorption. The iron oxide coated sand bed, a reactive filter media, screens contaminants from the water and the reactive surfaces of the granules of sand adsorb contaminants from the water.").

2. Office's Argument Is Factually Not Accurate.

Claims 2 and 5, depending from Claims 1 and 4 respectively, recite that regenerating the reactive filter media comprises agitating a mixture of metal granules and the filter media. That is to say, in Claims 2 and 5 the act of regenerating includes the act of agitating a mixture of metal granules and the filter media. To anticipate Claims 2 and 5 as well as the base claims, Claims 1 and 4, Nikolaidis must teach the act of regenerating. It is not sufficient that Nikolaidis teach agitating

a mixture of iron filings and sand without also teaching such agitation is performed under circumstances or in combination with such other acts that constitute regenerating the filter media.

For example, in Nikolaidis' examples 1 and 2, the iron filings and sand maybe be so diluted in the water that shaking the bottles is not sufficient to abrade the surface of the sand granules -- abrasion is the physical mechanism for regenerating active sites on the sand granules through agitation. See Specification paragraph 0017. To establish inherency, the Office must show that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. MPEP § 2112, paragraph IV.

Abrading the surface of the sand granules is not necessarily present in the shaker bottles of Nikolaidis. The fact that such abrasion may occur is not sufficient to support the Office's inherency argument.

For all of these reasons, Claim 1, 4 and 9 and their respective dependent claims distinguish patentably over Nikolaidis (and the combination of Nikolaidis and Winchester for Clams 9 and 10).

Claim 13 recites a reactive filtration method that includes passing waste water through a moving mixture of sand and metal granules. As detailed above, in Nikolaidis column treatment the mixture of iron filings and sand is not moving and in his admixing/shaking treatment, the water is not passing over the mixture. Claim 13 and its dependent claims, therefore, distinguish patentably over Nikolaidis.

All pending claims are felt to be in condition for allowance. Applicants request, therefore, examination of the withdrawn Claims 3, 6-8 and 11-12 depending from Claims 1, 4 and 9 respectively.

The foregoing is believed to be a complete response to the pending office action.

Respectfully submitted,

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